MULTIMEDIA UNIVERSITY

STUDENT ID NO

MULTIMEDIA UNIVERSITY

FINAL EXAMINATION

TRIMESTER 1, 2022 / 2023 SESSION (TERM ID 2215)

DOM5014 – OPERATIONS MANAGEMENT

(All Groups)

13th FEBRUARY 2023
2.30 p.m. – 4.30 p.m.
(2 Hours)

INSTRUCTIONS TO STUDENT

1. This question paper consists of 9 pages with 2 sections.
2. Attempt **ALL** questions in Section A and Section B. The distribution of the marks for each question is given.
3. Please write all your answers for Section A on the OMR form provided and all answers for Section B in the Answer Booklet provided.

SECTION A: Multiple Choice Questions (40 Marks)

1. Operations management is the set of activities that creates value in the form of goods and services by transforming _____ into _____.
   A. inputs; outputs
   B. outputs; inputs
   C. cash flow; outputs
   D. cash flows; inputs

2. Which of the following services required **LEAST** level of customer interactions?
   A. Counselling
   B. Dental treatment
   C. Cash deposit machine
   D. Grab food delivery

3. Which of the following tasks is related to operations for Escape Penang Theme Park?
   A. Promotion package for school holidays
   B. Currency exchange rate
   C. Account payable
   D. Crew work schedules

4. Which of the following is **NOT** an example of competing on the basis of differentiation?
   A. The Moon Newspaper advertise more than its competitors do.
   B. A firm designs its smart watch product with unique features.
   C. Jazz Cinema distinguishes itself by offering cinema suites and dine-in options.
   D. Fix aircon manufacturer offers the best warranty in the home appliances industry.

5. In which stage of the product life cycle is it most practical to change price?
   A. Introduction
   B. Growth
   C. Maturity
   D. Decline

6. A firm can effectively use its operations function to yield competitive advantage through all of the following **EXCEPT** _____.
   A. customisation of the product
   B. speed of delivery
   C. constant innovation of new products
   D. setting equipment utilisation goals below the industry average

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7. Chef J Bakery uses a weighted moving average method to forecast cupcake sales. It assigns a weight of 5 to the previous month's demand, 2 to demand two months ago, and 3 to demand three months ago. If sales amounted to 3000 cupcakes in May, 2000 cupcakes in June, and 1000 cupcakes in July, what should be the forecast for August?
   A. 2400
   B. 3767
   C. 1800
   D. 987

8. JJ Hypermarket would like to know the future consumption patterns of their customers after the recent announcement of abolishing sugar subsidies by government. Which of the following qualitative methods **BEST** suit for JJ Hypermarket?
   A. Consumer market survey
   B. Jury of executive opinion
   C. Delphi method
   D. Sales force composite

9. With the new launching of 5G service, Brayden is required to prepare a yearly schedule in predicting rate of technological progress. Brayden is involved in _____ forecast.
   A. demand
   B. economics
   C. technological
   D. financial

10. At G-Tech production floor, there is a wall poster that shows the exploited view of each model of smart watch, a sketch of details on how to assemble the product, this is an example of _____.
   A. assembly drawing
   B. assembly chart
   C. route sheet
   D. change order

11. Which of the following of service design techniques that would **NOT** be appropriate for a restaurant?
   A. Impose extra charges on automation process
   B. Modularisation the menu
   C. Reduce customer interactions
   D. Customisation

12. _____ may appear in factors such as decreasing family size.
   A. Economic change
   B. Sociological and demographic change
   C. Political and legal change
   D. Technological change

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13. *Kaizen* is a Japanese term meaning _____.
    A. setting standards
    B. lean operations
    C. just-in-time (JIT)
    D. continuous improvement

14. Hayden was given a task to identify organisations that are best at some facet of their operations within the same industry. The purpose is to model those organisations after them. Hayden most likely involves in the process of _____.
    A. continuous improvement
    B. benchmarking
    C. employee empowerment
    D. six sigma

15. Many has complaint about the slow services and poor food quality of JJ café for the past few months. Which of the following tool would be best suit to discover the possible locations of causing the quality issues in JJ café?
    A. Check sheet
    B. Pareto Chart
    C. Flow chart
    D. Cause and effect diagram

16. O&U Manufacturing purchased the logistic service firm that transporting their products to distributors. This is an example of _____.
    A. forward integration
    B. backward integration
    C. joint ventures
    D. outsourcing

17. Which of the following is **NOT** an advantage of virtual companies?
    A. Flexibility
    B. Low capital investment
    C. No overhead costs
    D. Lean performance

18. Which of the following distribution system offers speed and reliability for an urgent supply needed oversea?
    A. Waterways
    B. Railroads
    C. Airfreight
    D. Trucking

19. Japanese manufacturers often pursue a strategy that is part collaboration, part purchasing from a few suppliers, and part vertical integration. This approach is called _____.
    A. keiretsu
    B. kaizen
    C. poka-yoke
    D. kanban

Continued...

20. Which of the following would **NOT** be part of a firm's low-cost supply chain strategy?
    A. Low cost sourcing
    B. Speed and flexibility
    C. Minimize inventory
    D. Maximise product design performance

21. Which of the following is **NOT** one of the four main types of inventory?
    A. Finished goods
    B. Work in progress inventory
    C. Safety stock inventory
    D. Raw material inventory

22. ABC analysis divides on-hand inventory into three classes, generally based upon _____.
    A. the outstanding inventory
    B. unit price
    C. annual sales
    D. the discounted quantity

23. _____ is to ensure that items are counted and records updated on a periodic basis.
    A. Cycle counting
    B. Inventory management
    C. Basic EOQ model
    D. Holding cost

24. Which of the following would **NOT** generally be a motive for a firm to hold inventories?
    A. To hedge against inflation.
    B. To minimise holding costs.
    C. To provide a selection of goods for anticipated customer demand and to separate the firm from fluctuations in that demand.
    D. To take advantage of quantity discounts.

25. Which of the following is **TRUE** regarding cycle counting?
    A. Cycle counting is an inventory control technique exclusively used for cyclical items.
    B. One advantage of cycle counting is that it cycles or rotates the inventory constantly.
    C. In cycle counting, a set constant frequency of item counting and stock verification is usually established for all items in stock.
    D. Cycle counting eliminates annual inventory adjustments.

26. TPS stands for _____.
    A. Taguchi Production System
    B. Toyota Process Simplification
    C. Toyoya Production Streamlining
    D. Toyota Production System

Continued...

27. A(n) _____ is a concept that results in material being produced only when requested and moved to where it is needed just as it is needed.
    A. kaizen
    B. push system
    C. pull system
    D. elevation

28. Which of the following is **NOT** one of the Seven Wastes?
    A. Overproduction
    B. Control charts
    C. Transportation
    D. Defective products

29. Which of the following is **NOT** one of the fundamental issues in lean operations?
    A. Eliminate waste
    B. Remove variability
    C. Improve throughput
    D. Reduce stocks

30. The 5S category _____ includes cleaning daily at work area.
    A. Sort
    B. Shine
    C. Standardise
    D. Simplify

31. Which of the following statement is **NOT TRUE** about location strategies?
    A. Location decisions are based on many things, including costs, revenues, incentives, attitudes, intangibles, and ethical considerations.
    B. In location decisions, tangible costs are easier to measure than intangible costs.
    C. Manufacturers may want to locate close to their suppliers if the transportation of finished goods is expensive or difficult.
    D. One reason for a firm locating near its competitors is the presence of a major resource it needs.

32. Which of the following is usually **NOT** one of the top considerations in choosing a country for a facility location?
    A. Exchange rates
    B. Location of the markets
    C. Availability of labors
    D. Zoning regulations

33. _____ occurs when competing companies locate near each other because of a critical mass of information, talent, venture capital, or natural resources.
    A. Clustering
    B. Geographic Information Systems
    C. Zoning
    D. Globalisation

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34. Which of the following is **MOST LIKELY** to affect the location decision of a service firm rather than a manufacturing firm?
    A. Labour costs
    B. Parking and accessibility
    C. Utility costs
    D. Logistics costs of shipping finished goods

35. Which of the following is an example of intangible costs in location decisions?
    A. Taxes
    B. Utilities costs
    C. Quality of life
    D. Materials costs

36. Which of the following is **NOT** a retail layout practice?
    A. Locate the high-draw items around the periphery of the store.
    B. Use prominent locations for low-impulse and low-margin items.
    C. Use end-aisle locations to maximise product exposure.
    D. Distribute power items to both sides of an aisle and disperse them to increase viewing of other items

37. The candlelight atmosphere of a fine-dining restaurant is an example of the _____ element of servicescape.
    A. signs, symbols, and artifacts
    B. slotting fees
    C. spatial layout and functionality
    D. ambient conditions

38. _____ are charges that manufacturers pay to get their products displayed.
    A. Reputation fees
    B. Commissions
    C. Periphery
    D. Slotting fees

39. Which of the following most appropriate to adopt a fixed position layout?
    A. A doctor's office
    B. Car assembly production line
    C. A bungalow construction site
    D. A vegetarian café

40. The _____ layout's main objective is to equalise the task time for each station.
    A. office
    B. product oriented
    C. work cell
    D. fixed position

(Total: 40 marks)

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SECTION B: Structured Questions (60 Marks)

QUESTION 1

"Hybrid Working is now the most preferred working strategy for both employers and employees"

(a) Define hybrid working. (2 marks)

(b) Explain **TWO (2)** ways how hybrid working increase productivity. (4 marks)

(c) Discuss **TWO (2)** reasons why employees prefer hybrid working. (4 marks)

(d) Do you think that it is important to have a good quality of work life? Justify your answer. (4 marks)

(e) Varying job design may improve the quality of work life. Discuss **THREE (3)** approaches on how jobs can be varied in an organisation. (6 marks)

(Total: 20 marks)

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QUESTION 2

Ammar works as an Operations Manager at YY Running Shoes Manufacturing. His job requires him to manage three production lines for three different products. The details as follows:

Production Line A	Production Line B	Production Line C
Design capacity: 850 pairs	Design capacity: 2400 pairs	Design capacity: 1000 pairs
Effective Capacity: 720 pairs	Effective Capacity: 2100 pairs	Effective Capacity: 900 pairs
Actual Production: 590 pairs	Actual Production: 1150 pairs	Actual Production: 620 pairs

NOTE: Please show all workings (answer in two decimal points).

(a) Calculate utilisation rate for each production line. (6 marks)

(b) Based on your answer in (a), which production line has the highest and lowest utilisation rate? (2 marks)

(c) Calculate the efficiency rate for each production line. (6 marks)

(d) Ammar has been asked to re-layout the workstation in Production Line B to have targeted utilisation rate of 70%. Calculate the expected target for actual output for Production Line B. (4 marks)

(e) Based on your answer in (d), calculate the new efficiency rate for Production Line B. (2 marks)

(Total: 20 marks)

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QUESTION 3

Penang Hill funicular train breakdown leaves 180 visitors stranded

15 OCTOBER 2021, GEORGE TOWN: About 180 visitors, including holidaymakers to Penang Hill, were left stranded for about two hours this afternoon after the funicular train service experienced a breakdown. The service resumed at only about 4.30pm. For now, wear and tear of the on-track brakes are believed to be the cause of the breakdown. Penang Hill Corporation (PHC) general manager Datuk Cheok Lay Leng told the New Straits Times that when the safety mechanism detects a potential fault, it would immediately lock the track brakes. "It is not a case of the track brakes not functioning. "In total, we estimate that between 150 and 180 visitors were directly affected by the breakdown. These comprised those who happened to be in the coaches and those queuing from the upper to lower station. "We evacuated them under emergency procedures to the nearest station or safest point to rectify the issue," he said.

Cheok said those affected were brought down using jeeps and buses from the Botanic Gardens to the lower station. He said several hundred visitors were also affected as there were those who were unable to make the trip. PHC, he said, had requested that they return the next day or issued them with a refund. Cheok said the funicular train had not been running at a high frequency since the various Movement Control Orders (MCOs). "The issue was the track brakes' wear and tear on one coach. It took a bit of time to release it after bringing the visitors out. We can't do it with the visitors inside the coach. "We have spares and we have ordered brand new ones during the MCO and are still awaiting their arrival.....

Source: https://www.nst.com.my/news/nation/2021/10/736874/penang-hill-funicular-train-breakdown-leaves-180-visitors-stranded

(a) Which type of maintenance strategy is best explained in the above scenario? (2 marks)

(b) As part of the maintenance team, suggest another **TWO (2)** types of maintenance strategy that can be adopted to prevent or minimise the above incident. (6 marks)

(c) Discuss **FIVE (5)** strategic importance of maintenance and reliability in an operation. (5 marks)

(d) What is autonomous maintenance? (2 marks)

(e) What are the **FIVE (5)** responsibilities of employees in autonomous maintenance? (5 marks)

(Total: 20 marks)

End of Paper